

PHY 122, Spring 2025 Course Syllabus

This course of PHY 122, Section 90, Physics for the Life Sciences I meets at 8:00am in P-118, and is offered in a “studio setting”. The main course will take place on Mondays and Wednesdays from 8:00am to 9:20am, while the lab sessions will take place on Friday from 8:00 to 9:50am.

Two midterm exams will be given on February 24th at 8:15pm-9:35pm and April 3rd at 8:15pm-9:35pm, and a final exam will be given on May 15th at 2:15-5:00pm. This course will cover Chapters 17-30 of the electronic textbook described below.

Instructors

- (Main course) Prof. Giacinto Piacquadio <giacinto.piacquadio@stonybrook.edu>
 - Office hours will be held in-person in office D-143, on Tuesdays from 1:00pm to 3:00pm
- (Lab course) Emily Finson (TA) <emily.finson@stonybrook.edu>
 - Office hours: Thursdays 2:30pm to 4:00pm in A-129 or Fridays 10:00-10:30am (just after the lab course)
- (Lab course) Luke Martin (TA) <luke.martin@stonybrook.edu>
 - Office hours: Wednesdays 11:00am to 1:00pm in A-129

Brightspace

Most of the course administration will be done via Brightspace. There are two separate blackboard pages that you will have to access:

- **PHY122.90** to access homework, the course calendar, clicker and exam scores, lecture notes.
- **PHY122.L90** to access any information related to the laboratory, which is run by your lab TAs.

Please make sure that you have access to your Stony Brook Brightspace account, that these courses are listed there (in 1st week of classes for sure), and that the email address listed in your Brightspace account is one that you monitor. You have to register for the mastering physics homework and your clicker via Brightspace; see below.

Calendar

The calendar shows the material that will be covered in each lecture. It will be posted on Brightspace before the start of classes.

Firsts for this Semester:

- First *Clickers* for credit (clicker must be registered in Brightspace): **02/03**
- First *Homework* for class due (submitted online): **02/03 at 11:59pm**
- First *Lab Session*: **02/07**

Format of course

Class Lectures will provide an introduction to the material, problem solving practice, and short answer questions to allow you (and the instructor) to ascertain your understanding of the material just after it is presented. You should prepare for the lectures by reading the corresponding section of the e-text, and completing the pre-lecture homework assignment.

Required clickers or **App** are from Turning Point Technologies. The clickers are available in the campus bookstore. The App is available on the Google Android or Apple Store platforms. More information is below.

Required Homework problems will be assigned using an online system called *Mastering Physics*. Additional information is given in the Homework section below.

You should plan to use a calculator for the lectures. It should be able to do trig functions, square root, log, exponential notation. You do not need a fancy graphing calculator. You will also need your calculator for the exams. Your calculator is an important tool for the course, and you should be familiar with it. Calculators may not be shared in the exams. You may not use the calculator function of a mobile phone in the exams.

There are no recitations. The lecture functions as a recitation, insofar as you are guided towards learning how to solve problems on the material in the lecture notes and in the homework problems.

Laboratory

The laboratory is mandatory. There are ten lab experiments during the semester. Material about these laboratories can be found on this webpage: http://phylabs1.physics.sunysb.edu/introlabs/PHY_Studio/PHY_Studio.html (available

also on Brightspace (PHY122.L90)). All lab grades count; none are dropped. If you have an excused absence for missing your lab, you must arrange to make up the lab with the course TAs. Make-ups will be then schedule in one of the two weeks marked as “Make-up” in the lab schedule that you find on Brightspace (PHY122.L90).

A lab write up that completes all of the items listed in the manual for each individual lab is due one week from the date of each lab. More information about the format and grading of the lab reports will be given by your laboratory instructors.

All students are required to complete all 10 labs. Any student missing one lab (and not making it up) will have the letter grade for PHY 122 dropped by one letter! Not missing a lab requires attending it (remember to sign the attendance sheet to register your presence!) AND turning in the related lab report. Any student missing two labs will see the grade dropped by two letters. Missing more than two labs will result in failing the course.

Lab experiments are usually run in groups of a few students. You are allowed to share the input data, but you are NOT allowed to share any part of the lab report. Any repeated text and/or answers across your and other students’ lab reports will make you subject to reporting to the academic judiciary for plagiarism, and will result in a zero grade on your affected lab report.

Clickers

The bookstore sells clickers or you may download the Turning Point app for iPhone or Android. Whether you buy one new or reuse one from a previous semester you need to register it through Blackboard. Follow the instructions (in the Brightspace documents area) to register your clicker. If your clicker breaks or you lose it, you must register the replacement again. We will have clicker dry runs (i.e. no credit) to check the registration process. All clicker problems must be sorted out by the first date for which clickers count for credit, as listed above. We will not go back and retroactively transfer scores because of clicker problems. This is in part why we drop a number of clicker days (see below).

During the lecture, when you are working on one of the clicker questions, you may discuss the problem quietly with your immediate neighbors. This is intended to help you understand the problem and solve it. “The answer is C” is not the kind of discussion intended here - you deprive yourself of the opportunity to learn and prepare yourself for the exams. You will receive half of the credit even if you enter the wrong answer, so please try to answer the questions based on your own understanding. Your answers are also used by the instructors to determine which questions have given the students the most difficulty.

One person operating more than 1 clicker/app (i.e. doing your friend's clicker/app for them), or a person operating her/his own clicker while being absent from the classroom, is clear academic dishonesty, and will result in a report to the Academic Judiciary and a reduced grade for the owners of both clickers.

Homework and Electronic Textbook (etext)

Homework problems will be assigned using an online system called Mastering Physics (see below). There is a link on the course Brightspace page through which you access and register for Mastering Physics. There will be two sets of online problems assigned for each lecture. The pre-lecture problems should take 15 to 20 minutes and must be completed before the lecture starts. The post-lecture problems are expected to take about 60 minutes. The post-lecture problems are due three working days after the respective lecture, please check Mastering Physics for details.

Mastering Physics and Electronic Textbook: You must have a Mastering Physics license for the course (a license is good for two semesters!). This is obtained via the "MasteringPhysics" link from the "Table Of Contents" of the Brightspace course. This semester, we will primarily be following the textbook "College Physics, a Strategic Approach", 4th edition, by Knight, Jones, and Field.

Getting help

To help you with questions related to your homework problems and the laboratory, there is a help room (in Physics A-132) where you can discuss the problems with the TAs and with your colleagues who are working on the same homework. A schedule for when the help room will be staffed will be made available by the 2nd week of classes on Brightspace.

Exams

Two midterm exams will be given on February 24th at 8:15-9:35pm and April 3rd at 8:15-9:35pm, and a **final exam** will be given on May 15th at 2:15pm-5:00pm. **You have to make sure there are no conflicts in your schedule.** The registrar's policy is that students are responsible for avoiding exam conflicts, and exceptions will not be granted in this course. If you cannot take a midterm due to exceptional circumstances (documented illness or death in the immediate family), discuss this with the instructor as soon as possible. Generally we will increase the weights of the other parts of the course to compensate for the missing midterm but not have make-up exams. If you miss the

final with a valid excuse, you will receive an Incomplete in the course and a makeup final will be scheduled as promptly as possible after the end of the semester.

Grades

Your final grade will be based on the following:

- 10% Homework
- 10% Clicker score
- 15% **Each** of two midterms
- 25% Labs
- 25% Final Exam

Notes:

- The clicker score grade is based half on providing an answer (participation), and half on providing the correct answer [e.g. no answer=0, wrong answer=0.5, correct answer=1]
- The lowest 5 clicker scores, and lowest 3 homework scores, will be dropped when grading. No lab scores will be dropped.
- Pre-lecture homework assignments will provide up to an additional 5% of extra credit.
- There are no extra credit or other special supplementary assignments except the just mentioned pre-lecture homework available.
- The final score is the simple weighted average of all your component scores in %, each weighted by the weight number highlighted at the beginning of this section, plus the bonus points (5% maximum) from the pre-lecture homework.

Grading rubric

The final score (in %) is first rounded to the next closest integer (e.g. 74.6 → 75), and then translated into a letter grade according to the grading rubric table (see table below).

Grade	From (%)	To (%)
D	50	55
D+	55	60
C-	60	65
C	65	70
C+	70	75
B-	75	80
B	80	85
B+	85	90
A-	90	95
A	95	100

Standard University Policy

A. Student Accessibility Support Services (SASC): If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website:

<https://ehs.stonybrook.edu//programs/fire-safety/emergency-evacuation/evacuation-guide-disabilities> and search Fire Safety and Evacuation and Disabilities.

B. Academic Integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is **required** to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

C. Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Until/unless the [latest COVID guidance](#) is explicitly amended by SBU, during Fall 2021 "disruptive behavior" will include refusal to wear a mask during classes. For the latest COVID guidance, please refer to: <https://www.stonybrook.edu/commcms/strongertogether/latest.php>

D. Student Participation in University-Sponsored Activities: Students may have to miss class as a result of their participation in an event or activity sponsored by the University. This course will operate in compliance with the University policy set forth at: https://www.stonybrook.edu/sb/bulletin/current/policiesandregulations/policies_expectations/participation_univsponsored_activities.php. In particular, you should notify us in advance, but definitely before the final date of the 'add/drop' period, of your intention to miss any class, exams, or labs that will arise due to such activities.

At that time, we can discuss how you will be able to secure the work covered.

E. Religious Holidays: This course will operate in compliance with the University's policy regarding religious holidays, set forth at: http://www.stonybrook.edu/commcms/provost/faculty/handbook/employment/religious_holidays_policy.php.

In particular, you should notify us in advance, but definitely before the final date of the 'add/drop' period, of your intention to be out for religious observance. At that time, we can discuss how you will be able to secure the work covered.

VIII. Some Important Tips for Success:

- Physics depends heavily on mathematics. At this level, you'll need working familiarity with trigonometry and algebra, and a preparation to understand the ideas of calculus. So it is very important for your success that you meet the course prerequisites. Actually, calculus was invented to solve physics problems, and so we hope this course helps you understand some of the math you may have struggled to see the point of.
- Be familiar with your calculator, and use the same one for exams and the lab that you use for homework. You don't want to be spending valuable exam time figuring out how to use your calculator!
- Keep up to date with the material. The class has to move fast to cover everything, and most material builds on earlier topics.
- Read the book along with the lectures, and turn in as many of the homework problems as you can early for bonus credit, as explained above.
- University guidelines state: "Students are expected to be 'on task' for 40-45 clock hours per credit, per semester. 'On task' pertains to all instructional activities (exams, homework, lectures, discussions, etc.)." That works out to ten to twelve hours per week for this four-credit course.
- Do the homework! Don't just use ChatGPT, Chegg, Google, Bing, Course Hero, etc. to just obtain/look up the answer. It may be a quick way to finish the assignment, but it won't nourish your understanding, and it really won't help you to retain the concepts. Most of our exam problems are going to be very similar to the homework and the survey questions. If you've only looked at them before, you're in trouble. If you've solved them before, you're prepared.
- Most of the course administration will be done via Brightspace. Please make sure that you have access to your Stony Brook Brightspace account, that this course is listed there, and that the email address listed in your Brightspace account is one that you monitor. The detailed course calendar, and lots of other useful information is available in Brightspace.
- We encourage you to visit us in our on-line office hours, email us with questions, and visit the on-line Help Room!